Background and Purpose

What is the Maryland Low-Income Population Analysis Database?

The Maryland Low-Income Population Analysis Database is a tool developed by APPRISE for the Maryland Office of People's Counsel (OPC) that provides state and local agencies and the general public access to data from the U.S. Census Bureau's American Community Survey to analyze income, demographic, housing, and energy characteristics of low-income households in Maryland. The database includes information on low-income households, defined as having income at or below 200% of the Federal Poverty Level.

Through a series of menus, users can develop customized reports on the characteristics of low-income households. Users have the option to view data on all low-income households in Maryland or to view data for low-income households in specific geographic areas and/or with specific population characteristics.

What Information Can I Find in this Tutorial?

This tutorial contains four sections with step-by-step instructions to help users build reports in the Maryland Low-Income Population Analysis Database.

- Section 1 Creating Custom Reports
- Section 2 Selecting Standard Reports
- Section 3 Step-by-Step Examples for Building Reports
- Section 4 List of Variables Available for Analysis

Who Developed this Database?

The <u>Maryland Office of People's Counsel</u> (OPC) is an independent state agency that represents the interests of residential consumers of electricity, natural gas, telecommunications, private water, and certain transportation services in Maryland. OPC developed the Database to further its efforts to increase public awareness and access to information on the energy needs of low-income households.

OPC built the Database as part of a <u>Market Characterization Study</u> it commissioned with the support of <u>APPRISE</u>, a non-profit research institute, to understand the energy needs of low-income households. OPC will use this information to inform recommendations about Maryland's energy assistance and low-income energy efficiency programs, and advocate for policies that improve energy affordability for low-income households. Although the Database was built to understand the energy needs of low-income households, it includes data on a wide range of population characteristics that should be helpful to individuals, organizations, and agencies working on other issues affecting low-income households.

Creating Custom Reports – Select a Geographic Area or Population Segment to Analyze

Does the Database Include Program Data on Energy Assistance and Low-Income Energy Efficiency Programs in Maryland?

No. While the Database includes data on households income-eligible for these programs, it does not include data on program recipients. However, you will find that data in the companion Report. A link to the full Report is available on the Homepage of the Database.

CREATING CUSTOM REPORTS

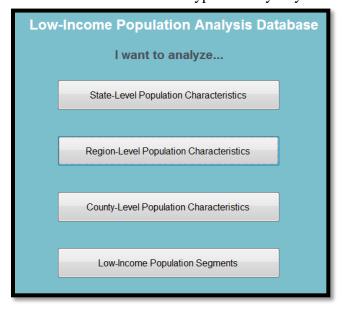
Get Started Building a Custom Report

From the Database homepage, select "Build Reports."



Choose Your Type of Analysis

You will be presented with a menu to choose what type of analysis you want to perform.



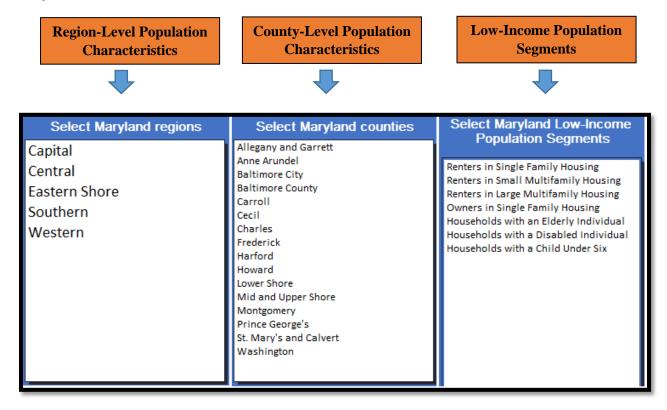
Creating Custom Reports – Select a Geographic Area or Population Segment to Analyze

Select the type of analysis you would like to perform based on whether you are interested in analyzing population characteristics within a specific geographic area or for a specific segment of the low-income population.

If you want to analyze data for the entire state of Maryland		Click on "State-Level Population Characteristics"
If you want to limit analysis to one or multiple regions in Maryland		Click on "Region-Level Population Characteristics"
If you want to limit analysis to one or multiple counties in Maryland		Click on "County-Level Population Characteristics"
If you want to limit analysis to households with specific housing or demographic characteristics		Click on "Low-Income Population Segments"

Choose a Population Subset to Analyze

Once you have selected the type of analysis to perform, you will be taken to a page with several steps to specify the parameters for your custom report. In the first step you will be prompted to select which subset of the low-income population to analyze based on whether you selected to analyze regions, counties, or population segments. Users that select state-level analysis do not need to choose a population subset in Step 1 since they have already indicated they would like to analyze data for the entire state.



Creating Custom Reports – Add Additional Filters to Your Population Analysis

Tip #1 Deciding Whether to Conduct State, Region, County, or Population Segment Analysis

Users that decide to analyze region- or county-level characteristics or population segments are prompted to choose which sub-groups to analyze. Users can select one or multiple counties or regions to include in their analysis; however, users can only select one low-income population segment at a time to analyze.

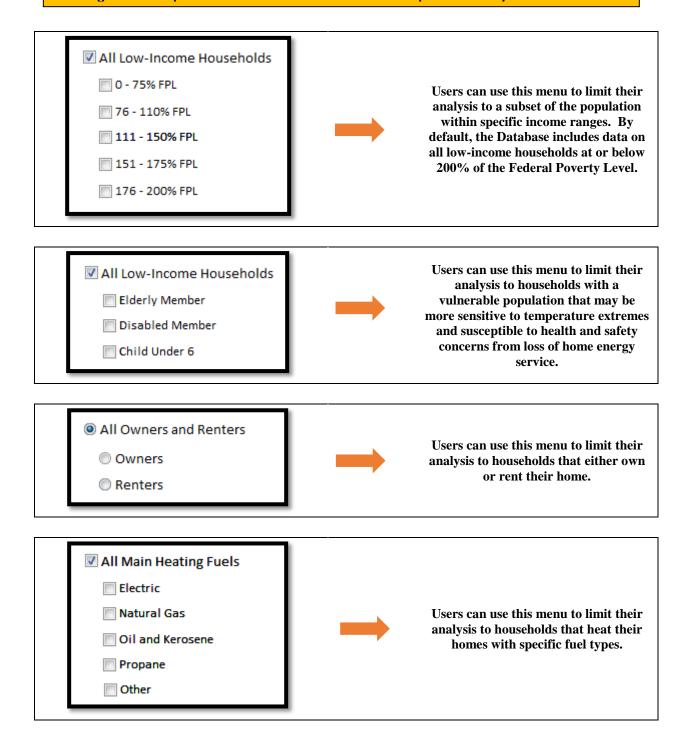
Keep in mind – if you are interested in reporting on the number of low-income households in each county or region in Maryland, you should choose to analyze "State-Level Characteristics" and then select "State Regions" or "County/County Areas" as the population group you are analyzing in Step 3 or 4 in the report selection screen. Only choose "Region-Level Characteristics" or "County-Level Characteristics" if you want to limit your report to a subset of regions or counties. Users that want to limit their analysis to a population segment not available in the "Low-Income Population Segments" section can choose to perform "State-Level Characteristics" and use filters in Step 2 of the report selection screen to customize the low-income population segments to include in their analysis.

Due to their small population size, some counties have been grouped into county areas in the Database. Regions available for analysis roughly approximate the service territories of the service areas of the largest regulated utilities. They do not align exactly with utility service areas but are intended to inform analysis of population characteristics within different regions of the state. Beneath the selection screen to choose regions or county areas is a map with labels that shows the counties included in each region and county area. Users can click the map to view a larger image of it.

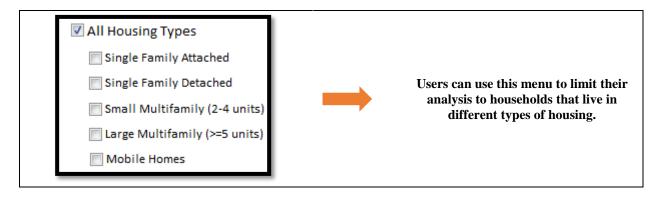
Add Additional Filters to Your Population to Analyze

Once you have selected whether you will analyze low-income households in the entire state or indicated which regions, counties, or population segments to analyze, you will have an opportunity to further refine your analysis to only include households with specific income, demographic, ownership, energy, and/or housing characteristics in Step 2 of the report selection screen. The Database defaults to including all low-income households within the geographic area/population segment you've selected but allows you to apply additional filters. See below a list of all available filters to choose from in Step 2 of the report selection screen.

Creating Custom Reports – Add Additional Filters to Your Population Analysis

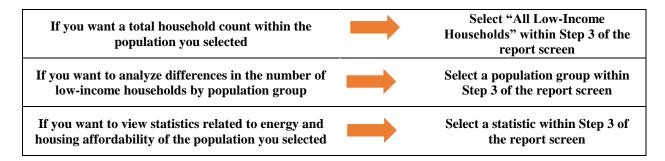


Creating Custom Reports – Select Data to Analyze



Select What You Want to Analyze About Your Population

Now that you have determined which households to include in your analysis, the next step is to decide what you want to know about your population. Users can get a total count of low-income households, analyze differences in the number of low-income households by population group (e.g. number of households by race/ethnicity), or generate statistics related to energy and housing affordability (e.g. average total energy bill) for the low-income population. Users make this selection in Step 3 of the report selection screen in the Database.



Tip #2 Deciding Which Population Group to Analyze

Users interested in understanding the number of low-income households with different population characteristics should choose the appropriate population group they are interested in studying in Step 3 of the report screen. Population groups are organized by topic areas to help users determine which group they are interested in analyzing.

The Database will display the number of low-income households specified by the user with each characteristic associated with the selected population group. For example, if a user selects the population group "Owner/Renter", they will receive a count of the low-income households that own their home and rent their home. Similarly, if a user selects the population group "Race/Ethnicity", they will receive a count of the low-income households in each race/ethnicity group available for analysis.

To view a complete list of characteristics associated with each population group, see <u>Section 4 – List of</u> Variables Available for Analysis.

Creating Custom Reports – Select Data to Analyze

Choose a Second Variable to Include in Your Analysis (Optional)

Once you decide what you are analyzing in Step 3 of the report selection screen, you have the option to select a second variable that breaks out your analysis further in Step 4 of the report selection screen. Selecting a population group as your second variable in Step 4 will allow you to see the number or percentage of households in your primary analysis group broken out by a secondary analysis group. Selecting an energy or housing affordability statistic as your second variable in Step 4 will allow you to see the group average value for the selected statistic for each population characteristic associated with the population group you selected in Step 3. Users that do not want to select a second variable for analysis can skip Step 4 of the report selection screen. The example below shows what data you will receive if you are interested in analyzing owner/renter characteristics and choose to skip Step 4, choose a secondary population group variable in Step 4, or choose a secondary statistical variable in Step 4.

TYPE OF ANALYSIS SELECTED		TYPE OF OUTPUT DISPLAYED
"Owner/Renter" selected in Step 3 of report selection screen. No second variable selected in Step 4.	\rightarrow	Number of low-income households that own and rent their homes
"Owner/Renter" selected in Step 3 of report selection screen. "Federal Poverty Level" selected in Step 4 of report selection screen.		Number or percentage of low-income households that own and rent their homes within each Federal Poverty Level range
"Owner/Renter" selected in Step 3 of report selection screen. "Average Total Energy Bill" selected in Step 4 of report selection screen.		Average Total Energy Bill for low- income owners and renters.

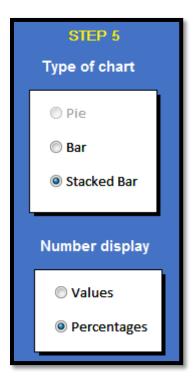
Creating Custom Reports – Select Data Display Options

Choose How to Display Your Data

Now that you have finished specifying the data you will analyze, the next step is to decide whether you want to view your data as a chart or table. Depending on the type of data you are analyzing, the Database will present you different options for viewing your report as a chart or table. Based on the type of report and view selected, data can be shown as a number, percentage, or both. The table below summarizes what type of displays are available for each analysis type and whether the data can be displayed as a number and/or percentage.

One-variable population group analysis (no variable selected in Step 4 of the report selection screen)	—	 Pie Chart (# and %) Bar Chart (# and %) Table (#)
One-variable statistical analysis (no variable selected in Step 4 of the report selection screen)		• Table (\$ or %)
Two-variable population group analysis		Bar Chart (#)Stacked Bar Chart (# or %)
Two-variable statistical analysis (statistical analysis for a selected population group)		• Table (\$ or %)

Users can make their selection for how to display their data in Step 5 of the report selection screen. The available options for type of chart and number display will update based on what type of data you select in Steps 3 and 4 of the report selection screen.



Creating Custom Reports – Select Data Display Options

Tip #3 Should I View My Data as a Chart or Table?

You should consider your objectives and the type of data being analyzed when deciding how to display your report. Pie charts are best used when analyzing a variable with a limited number of characteristics. For example, developing a pie chart that includes all 16 county/county areas will be difficult to read and may be best interpreted in table format. When conducting two-variable population group analysis, a stacked bar chart is useful for understanding relative proportions of the low-income population with different characteristics whereas bar charts are useful for interpreting distinct values of each individual characteristic.

Edit Your Chart Title

As you specify the parameters for your report, the Database will automatically generate a descriptive title in Step 5 of the report selection screen. Through the "Edit Your Chart Title" menu, users can edit their title. All charts and tables will by default include a line in the title to indicate the data source used to generate the statistics (American Community Survey 2015 – 2017).

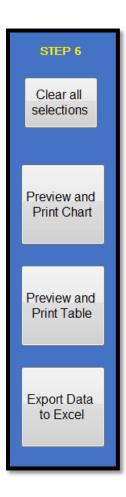
Edit your chart title
Limited English Proficiency
Households < 200% FPL
State of Manyland
State of Maryland

View Your Report

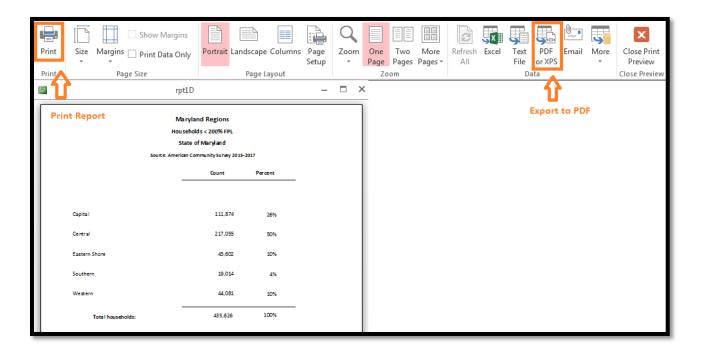
The final step in the report building process is to generate a chart or table or to export your data to an Excel file. You can view your chart or table by selecting "Preview and Print Chart" or "Preview and Print Table" in Step 6 of the report selection screen. Once selected, a preview of the chart or table will be displayed on a new screen. You can then print, save, or export your data in PDF format. Due to data display constraints, we do not recommend exporting data to Excel from the "Preview and Print" screens. Note that values of zero are represented as blank cells in charts and tables.

Creating Custom Reports – Select Data Display Options

Users that would like to export their data to Excel should use the "Export Data to Excel" button in Step 6 of the report selection screen. You will be prompted to identify a file name and location to store the Excel spreadsheet and can then open and view your file. Data exported to Excel can only be viewed in table format. Information on the analysis variables used, filters applied, geographic area selected, and data source will be shown as separate columns of data followed by the computed values for the analysis performed. Data in Excel will be displayed as numbers unless the user specifies the report should be displayed as a percentage in Step 5 of the report selection screen. At any point, a user can clear the parameters they have selected in the report selection screen by selecting "Clear all selections" in Step 6.



Creating Custom Reports – Select Data Display Options



Selecting Standard Reports

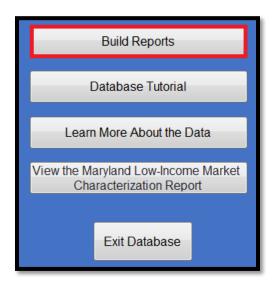
SELECTING STANDARD REPORTS

What's the Difference between Standard and Custom Reports?

The Maryland Low-Income Population Analysis Database provides users options to develop customizable or standard reports. Through the custom report features, users can access a guided search menu where they can define the population to analyze, choose what they want to analyze about the population, and decide how to view their data. Alternatively, the Standard Reports feature of the Database provides access to five predefined reports of common interest to users. These five reports are not configurable but provide quick access to information that is pertinent to users.

Access the Reports Section of the Database

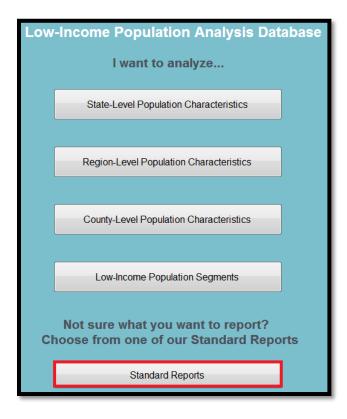
From the Maryland Low-Income Population Analysis Database homepage, select "Build Reports."



Access Standard Reports

You will be presented with five options for generating a report. To view the preconfigured standard reports in the Database, select "Standard Reports."

Selecting Standard Reports



Choose a Standard Report

You will be presented with five standard reports to choose from. Select the standard report of interest to you.



Selecting Standard Reports

Low-Income Renters by Housing Type by County	Number of renters below 200% of the Federal Poverty Level in each county area, broken down by the type of housing they live in.
Low-Income Owners by Housing Type by County	Number of renters below 200% of the Federal Poverty Level in each county area, broken down by the type of housing they live in.
Low-Income Households by Head of Household Type by County	Number of households below 200% of the Federal Poverty Level in each county area, broken down into categories based on age of household members and the presence of children.
Low-Income Households by Vulnerable Population Type by County	Number of households below 200% of the Federal Poverty Level in each county area with the presence of an elderly individual (60+), disabled individual, child under six, or at least one of the above population groups.
Households Income-Eligible for Energy Assistance by County	Number of households below 175% of the Federal Poverty Level in each county area.

Print or Export Your Report

Once selected, your report will display as a table in a new pop-up window. Here you can view, print, and export your data. When exporting your data, we recommend you export the file as a PDF. Data can also be exported to an Excel file; however, the data will not be formatted with the table's title and information on the data sources.

Selecting Standard Reports

Print Page Size Size Margins Print Data Only		Setup out	om One Two Me	County	Text PDF Email or XPS Data Export to PD	More Close Print Preview Close Preview
County Group	Single Family Attached	Single Family Detached	Small Multifamily (2-4 units)	Large Multifamily (5+ units)	Mobile Homes	County Total
Allegany and Garrett	393	6,064	85	98	812	7,453
Anne Arundel	2,560	9,654	47	1,307	946	14,515
Baltimore City	17,300	5,038	529	1,118	85	24,070
Baltimore County	7,265	15,646	58	1,932	885	25,787
Carroll	537	3,868	24	173	170	4,771
Ceal	290	2,247	0	51	675	3,263
Charles	504	3,743	0	0	203	4,450
Frederick	1,074	4,580	9	421	57	6,141
Harford	1,579	5,638	75	1,105	543	8,940
Howard	1,385	2,713	72	512	114	4,797
Lower Shore	355	6,413	29	253	953	8,004
Mid and Upper Shore	285	6,852	67	74	659	7,937

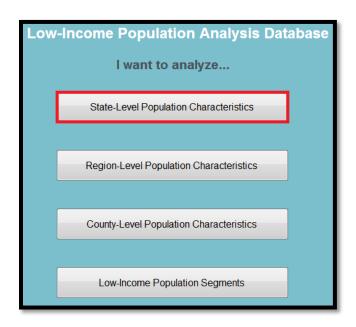
Example Report - Housing Age of Owner-Occupied Housing in Maryland

STEP-BY-STEP EXAMPLES FOR BUILDING REPORTS

The following three examples provide a step-by-step overview for how to develop different custom reports a user may be interested in.

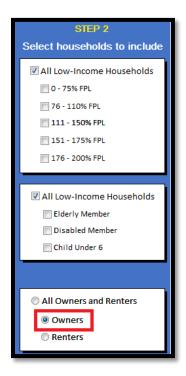
Example #1 - I want to view a table that shows the age of housing for owner-occupied low-income households in Maryland.

Step 1: Since you are interested in data on households in the entire state of Maryland, choose to analyze "State-Level Population Characteristics."



Step 2: Since you want to limit your analysis to only households that own their homes, select "Owners" in Step 2 of the report selection screen.

Example Report – Housing Age of Owner-Occupied Housing in Maryland



Step 3: Select "Age of Housing" in Step 3 of the report selection screen to analyze the housing age of this low-income population.



Step 4: Select "Preview and Print Table" in the report selection screen to view a table with your report results. A pop out window with your results will appear.

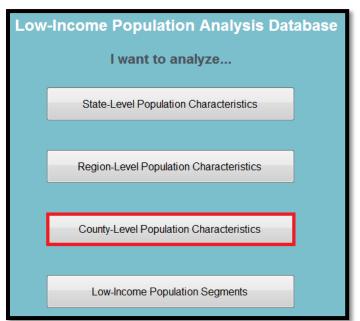
Example Report – Housing Age of Owner-Occupied Housing in Maryland

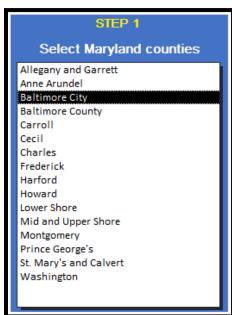
Select action STEP 6 Clear all selections		Househol	Age of Housing ds < 200% FPL, Owners Or State of Maryland rican Community Survey 2015: Count	
Preview and Print Chart	合	1939 or earlier 1940-1949 1950-1959	25,285 14,200 27,703	15% 8% 16%
Preview and Print Table		1960-1969 1970-1979 1980-1989	21,945 23,999 21,883	13% 14% 13%
Export Data to Excel		1990-1999 2000-2004 Total households:	18,769 17,731 171,515	11%

Example Report – Baltimore City Households by Housing Type and Federal Poverty Level

Example #2-I want to view a chart that shows the percentage of low-income households living in different housing types in different Federal Poverty Level ranges in Baltimore City.

Step 1: Since you are interested in data only for households in Baltimore City, choose to analyze "County-Level Population Characteristics." Then choose "Baltimore City" in Step 1 of the report selection screen.



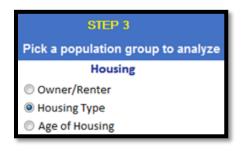


Step 2: You are interested in viewing data on all low-income households in Baltimore City, so you do not need to apply any filters in Step 2 of the report selection screen. Leave this section with its default settings to include all households.

Example Report – Baltimore City Households by Housing Type and Federal Poverty Level

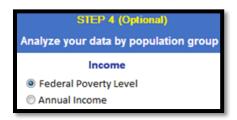


Step 3: Your primary interest is to analyze housing types of low-income Baltimore City households. Select "Housing Type" as your population group to analyze in Step 3 of the report selection screen.

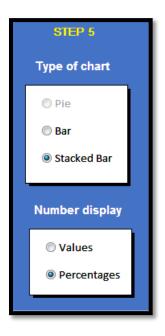


Example Report – Baltimore City Households by Housing Type and Federal Poverty Level

Step 4: Since you want to see the percentage of households in each housing type at different Federal Poverty Level ranges, select "Federal Poverty Level" as your secondary variable to analyze in Step 4 of the report selection screen.



Step 5: Data comparing percentages of households with different characteristics can be effectively shown in a stacked bar chart. Choose "Stacked Bar" as your chart type and "Percentages" as your number display in Step 5 of the report selection screen.

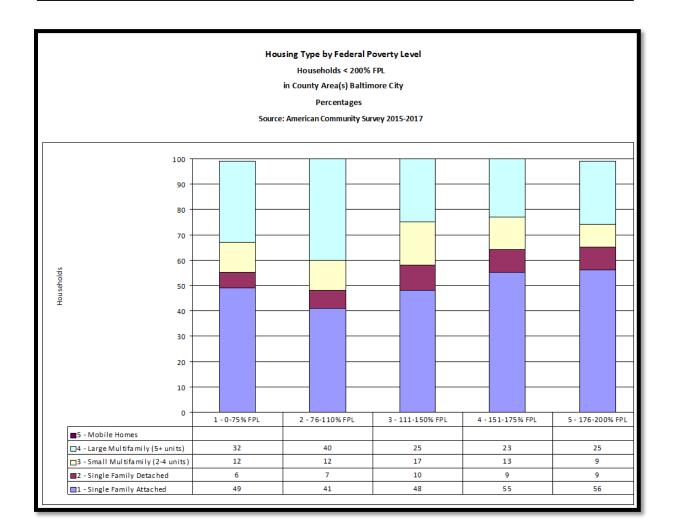


Step 6: Select "Preview and Print Chart" in the report selection screen to view a chart with your report results. A pop out window with your results will appear.

Example Report – Baltimore City Households by Housing Type and Federal Poverty Level



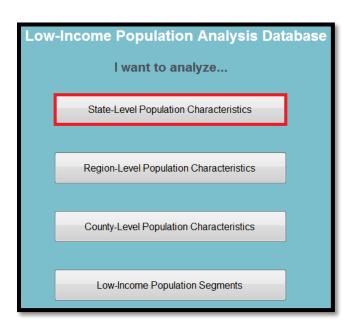
Example Report – Baltimore City Households by Housing Type and Federal Poverty Level



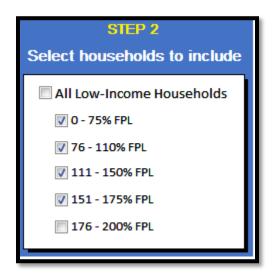
Example Report – Average Gross Energy Burden for Households < 175% FPL by Region

Example #3 – I want to view a chart that shows average gross energy burden for households below 175% of Federal Poverty Level in each state region.

Step 1: You are interested in analyzing data for all regions in Maryland so select "State-Level Population Characteristics" for your analysis. If you were only interested in analyzing a subset of state-regions, you would select "Region-Level Population Characteristics."

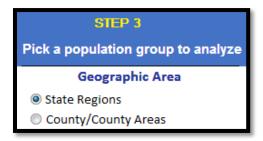


Step 2: Since you want to limit your analysis to only households below 175% of the Federal Poverty Level, select each poverty level range up to 175% of the Federal Poverty Level in Step 2 of the report selection screen.

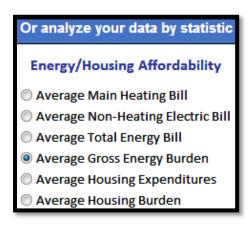


Example Report – Average Gross Energy Burden for Households < 175% FPL by Region

Step 3: You are interested in analyzing data for each region in Maryland, so select "State Regions" as your population group to analyze in Step 3 of the report selection screen.

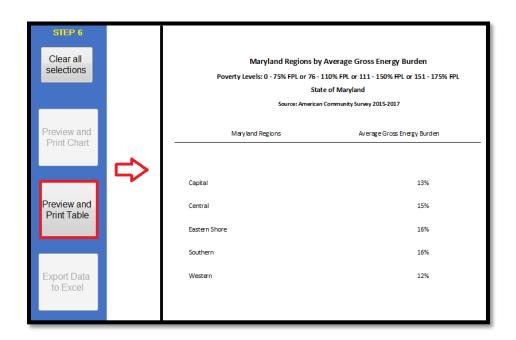


Step 4: Since you want to know what the average gross energy burden is in each region, select "Average Gross Energy Burden" as the secondary variable to analyze in Step 4 of the report selection screen.



Step 5: Select "Preview and Print Table" in the report selection screen to view a table with your report results. A pop out window with your results will appear.

Example Report – Average Gross Energy Burden for Households < 175% FPL by Region



List of Variables Available for Analysis

LIST OF VARIABLES AVAILABLE FOR ANALYSIS

Regions Available for Analysis

The following table documents the counties included in each region available for analysis in the Maryland Low-Income Population Analysis Database and the utility service areas they roughly approximate.

Regions Available for Analysis	Counties Included in County/County Area	Approximated Utility Service Area(s)
Capital	Montgomery, Prince George's	PEPCO, Washington Gas
Central	Baltimore City, Baltimore County, Howard, Anne Arundel, Carroll, Harford	Baltimore Gas & Electric
Eastern Shore	Cecil, Kent, Queen Anne's, Talbot, Caroline, Dorchester, Wicomico, Somerset, Worcester	Delmarva, Choptank, Easton
Southern	Calvert, Charles, St. Mary's	Southern Maryland Electric Cooperative, Washington Gas
Western	Garrett, Allegany, Washington, Frederick	Potomac Edison

County Areas Available for Analysis

The following table documents the counties and county areas available for analysis in the Maryland Low-Income Population Analysis Database.

County/County Area Available for Analysis	Counties Included in County/County Area
Allegany/Garrett	Allegany, Garrett
Anne Arundel	Anne Arundel
Baltimore City	Baltimore City
Baltimore County	Baltimore County
Carroll	Carroll
Cecil	Cecil
Charles	Charles
Frederick	Frederick
Harford	Harford
Howard	Howard

List of Variables Available for Analysis

County/County Area Available for Analysis	Counties Included in County/County Area
Montgomery	Montgomery
Prince George's	Prince George's
Mid/Upper Shore	Queen Anne's, Talbot, Caroline, Dorchester, & Kent
St. Mary's/Calvert	St. Mary's & Calvert
Washington	Washington
Lower Shore	Wicomico, Worcester, & Somerset

Characteristics Associated with Each Population Group

The following table documents the characteristics available for analysis for each population group included in Steps 3 and 4 of the Maryland Low-Income Population Analysis Database report selection screens.

Topic	Population Group	Characteristics	
G 1: A	State Region	See State Region table above	
Geographic Areas	County	See County Areas table above	
		0 – 75% FPL	
		76 – 110% FPL	
	Federal Poverty Level	111 – 150% FPL	
		151 – 175% FPL	
		176 – 200% FPL	
Income		Less Than \$10,000	
		\$10,000 - <\$20,000	
	Annual Income	\$20,000 - <\$30,000	
		\$30,000 - <\$40,000	
		\$40,000 - <\$50,000	
		\$50,000 or More	
		Elderly (60+), Individual	
		Elderly (60+), Multiple Members	
	Head of Household Type	Older (40 – 59) Without Children	
	Tread of Household Type	Older (40 – 59) with Children	
		Younger (<40) Without Children	
		Younger (<40) with Children	
		White, Non-Hispanic	
Demographics		Black, Non-Hispanic	
	Race/Ethnicity	Hispanic	
		Asian	
		Other	
		Proficient	
	Limited English Drofisionary	Limited English Proficiency – Hispanic	
	Limited English Proficiency	Limited English Proficiency – Non-	
		Hispanic	

List of Variables Available for Analysis

Topic	Population Group	Characteristics
	Internet Access	Does Not Have Internet Access
	Internet Access	Has Internet Access
	Child Under Six	No
	Clind Olider Six	Yes
	Elderly Member	No
Vulnerable Populations	Elderry Weinber	Yes
vumerable r opulations	Disabled Member	No
	Disabled Melliber	Yes
	Any Vulnerable Deputation	No
	Any Vulnerable Population	Yes
	Owner/Renter	Own
	Owner/Renter	Rent/Other
		Single Family Attached
		Single Family Detached
	Housing Type	Small Multifamily (2-4 units)
		Large Multifamily (5+ units)
		Mobile Home
Housing		2000 or Later
		1990 to 1999
		1980 to 1989
	A as of Housing	1970 to 1979
	Age of Housing	1960 to 1969
		1950 to 1959
		1940 to 1949
		1939 or earlier
		Electricity
		Natural Gas
T	Main Hastina Fran	Fuel Oil/Kerosene
	Main Heating Fuel	Propane
Energy Use		Other
		No Fuel Used
	Heat Included in Deed	Heat Included in Rent or Fee
	Heat Included in Rent	Pays Heating Bill Direct to Vendor